Volkov, V. F.

ANDON'YEV, S.M., kandidat tekhnicheskikh nauk.; FILIP'YEV, O.V., inzhener.; VOLKOV, V.F., inzhener.; SIRENKO, B.M., inzhener.

Air-cooled valve gate of new design. Metallurg 2 no.3:40 Mr '57. (MIRA 10:4)

1. Giprostal'.

(Open hearth furnaces)

VOLKOV, V.F.

Preliminary air purification in ventilation chambers. Obm. tekh.opyt.[MLP] no.20:42-43 '56. (MIRA 12:11)
(Ventilation)

VOLKOV, V.F.

Attachment for milling bolt heads and nuts on lathes. Obm. tekh.opyt.[MLP] no.20:3-4 '56. (MIRA 12:11)
(Lathes--Attachments)

AUTHOR: Volkov, V.F. SOV/133-58-10-14/31

TITLE: Zaporozh'ye Works of Ferroalloys are 25 Years Old (Zaporozhskomu zavodu ferrosplavov 25 let)

PERIODICAL: Stal', 1958, Nr 10, pp 907 - 909 (USSR)

ABSTRACT: A brief outline of the development of the works is given. The progress achieved during the period 1950-1957 is illustrated by the decrease in the costs of production of alloys (see table). There is 1 table.

ASSOCIATION: Zaporozhskiy zavod ferrosplavov (Zaporozh'ye Works of Ferroalloys)

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S/196/61/000/002/002/002
E073/E535

AUTHOR: Volkov, V.F.

TITLE: Certain Problems of Hydrodynamics of a Fluidized Bed

PERIODICAL: Referativnyy zhurnal, elektrotekhnika i energetika, 1961, No.2, p.12, abstract no.2G63, Sbornik "Vopr. energotekhnol. ispol'zovaniya topliv Sibiri". Novosibirsk, Sib.otd. AN SSSR, 1960, 129-136

TEXT: It is stated that there are two trends in developing the theory of hydrodynamics of a fluidized bed. The first is based on data on the flow of a liquid stream past individual solid particles. On the basis of the analogy theory, criterion relations are established which are applicable for the hydrodynamics of a fluidized bed. The second, more thoroughly developed trend is based on fundamental conceptions of the hydrodynamics of a dense layer of granular material. By introducing certain assumptions the method developed for a dense layer is applied to a fluidized bed. The drawbacks of both methods are pointed out. The differing approach to the theoretical solution and introduction of coefficients which have no clear physical meaning.

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led to a large number of formulae for determining the hydrodynamic characteristics of fluidized beds. No critical comparison exists between the formulae recommended by various authors and, therefore, an attempt is made to compare data of some of the investigators by graphical comparison of the formulae of Soviet authors in terms of dimensionless coordinates; this enables sufficiently simple changing over to $W_o - d_T$ coordinates (speed of the medium - diameter of the particles of the solid material) for any fluidized bed. Curves are plotted on the basis of the formulae of Todes, Fedorov, Kasatkin and Akopyan. A graph is included which enables rapid and sufficiently accurate determination for any system from a given value of d_T of the speed W_o related to the full cross-section which is required for obtaining a fluidized bed with the necessary criterion of pseudo-boiling $W = W_o/W_k^I$ (W_k^I - critical speed of the fluidized bed, i.e. the speed at which a freely resting immobile layer will become transformed into the mobile state). An example is included which illustrates the convenience of using such a graph for practical calculations. 3 bibliographic references.

[Note: The above text is a full translation of the original Soviet abstract.]

Card 2/2

BLOKHIN, M.A.; VOLKOV, V.F.

Determination of the thickness of a deposited layer by means of the KRFS-2 X-ray spectrometer. Zav.lab. 27 no.9:1110-1111 '61. (MIRA 14:9)

1. Rostovskiy gosudarstvennyy universitet.
(Thickness measurement) (Spectrometry)

S/133/62/000/001/004/010
A054/A127

AUTHORS: Volkov, V. F., Sarankin, V. A., Kravchenko, V. A., Boitsov, L. I.

TITLE: Improving the smelting technology of carbon-free ferrochrome in arc furnaces

PERIODICAL: Stal', no. 1, 1962, 43

TEXT: A new method for smelting carbon-free ferrochrome in stationary 3,500 kW arc furnaces (with 420-mm diameter electrodes) was tested. The charge consisted of 4,000 kg chrome ore (55% Cr_2O_3), 1,620 kg silicochrome (50% Si) and 3,800 kg lime, (90% CaO). The new method differed from the conventional one in that silicochrome is fed in two batches: one on the furnace bottom (varying in amount), while the second part of silicochrome is added after the charge (chrome ore and lime) is smelted. 450 tests were made with Xp 0000 (Khr 0000) ferrochrome. By adding part of the silicochrome onto the bottom of the furnace, a great amount of the heat released by the heating of silicochrome could be utilized for smelting the charge, whereas when silicochrome was added later to the charge, the heat developed by the burning silicochrome is only wasted on the overheating of the charge already smelted. Optimum results were obtained when about half of

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Improving the smelting technologies of...

the silicochrome (800 kg) was placed on the furnace bottom and half of it added to the charge. When less than 50% of silicochrome was fed onto the bottom, the smelting of the charge was delayed; adding more, the furnace lining was affected due to the intensive smelting of the charge. When about 50% of the total silicochrome was added, a considerable amount of silicium developed, on account of the reduction of chrome and ferro-oxides. This decreased the basicity of the slag and its smelting temperature. Adding silicochrome in two batches reduced the metal losses from 4 - 5 to 2 - 3% of the smelt. The new method also made it possible to maintain the carbon content at the same level in all heats and to use the KhrOOOO grade which contains not more than 0.06% C. Thus, the new process not only improves the smelting process but also the quality of the alloy. There is 1 figure.

Card 2/2

ZHERDEV, I.T.; DEKHANOV, N.M.; VOLKOV, V.F.; KUZNETSOV, L.I.; DAVATTS, V.N.; POLYAKOV, I.I.

Structure of the furnace bath in the production of 45-percent ferrosilicon. Izv. vys. ucheb. zav.; chern. met. 5 no.3:77-87 '62. (MIRA 15:5)

1. Dnepropetrovskiy metallurgicheskiy institut i Zaporozhskiy zavod ferrosplavov.
(Ferrosilicon—Electrometallurgy) (Electric furnaces)

S/133/63/000/001/005/011
A054/A126

AUTHORS: Dekhanov, N. M., Volkov, V. F., Engineers, Kravchenko, V. A., Candidate of Technical Sciences, Frish, M. I., Engineer

TITLE: Putting into operation a large-capacity covered ferro-alloy smelter

PERIODICAL: Stal', no. 1, 1963, 41 - 44

TEXT: The first covered smelters for producing manganese silicate grades (СИМН 14, СИМН 17/Simn14 and Simn 17) were put into operation in the Soviet Union in 1962. First a conventional iron-smelter of 10,000 kw capacity was converted for this purpose. Its crown was made of slanting refractory concrete segments (250 mm thick, 50 tons in weight), clamped into a 600 x 300 mm annular reinforced concrete frame. The concrete used (grade"150")had a refractory capacity of 1,000°C and consisted of 330 kg/m^3 liquid glass (density: 1.38), 40 kg/m^3 sodium fluo-silicate, 577 kg/m^3 chamotte (in the form of finely crushed additive, 50% of which passes through a screen with 4.200 mesh/cm^2), 770 kg/m^3 small-grained filling material (with a grain size up to 5 mm, 15 - 20% minus 0.14 mm), 600 kg/m^3 large-grained filling material (2) - 5 mm fraction). The moisture content of the sodium fluo-silicate and of the small-grained additive should not exceed

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1.5 weight % prior to concreting. These components must be very accurately proportioned (± 2%). Several types of feeding chutes were tested made of Ст.0(St.0) and 1Х18Н9Т (1Kh18N9T) grade or cast of ЭИ-283 (EI-283) steel, finally of grade"150" concrete with a refractory capacity of 1,300°C, containing 350 kg/m^3 liquid glass (density: 1.38), 24 kg/m^3 sodium flourosilicate, 500 kg/m^3 finely crushed magnesite powder and 700 kg/m^3 chamotte gravel (10 - 20 mm). The service life of these chutes was about 35 days. At present the chutes are reinforced by stainless steel, 2 mm in diameter. The furnace charging is continuous and fully automatic and takes place by means of bunkers, ЛДА-12 (LDA-12) type weight-proportioning devices, including an electromagnetic vibrator and weighing belts. The charging mechanism can be set for any required capacity by regulating the vibrator. Removal and cleaning of the exhaust gases is carried out by a two-stage process, involving a pipe-system and scrubbers. According to NIIOGAZ calculations, the amount of gas in the second stage of cleaning (at a furnace-capacity of 7,600 kw) is 1970 standard m^3/hour and contains 18.05% CO_2, 60 - 72.7% CO and 0.0 - 2.29% O_2. The dust content of the removed gas after the first cleaning stage is 5 - 10 gr/standard m^3, which decreases to 0.1 - 0.0238 gr/standard m^3.

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The undisturbed operation of the electrodes is ensured by making their fully welded coating of 2 mm thick iron. The diameter of the electrodes is 830 mm, their current density 7 a/cm^2. The change from the conventional to the new technology adapted for the converted furnaces must take place with great care. The charge must be fed in small batches around the electrodes, the level of the charge must be 600 - 700 mm for 8 hours, the furnace capacity must be kept low, but there should be a maximum load on the electrodes, i.e. they must penetrate deeply, almost as far as the bottom. For this purpose, after the furnace is put into operation, the amount of small coke in the first two charges must be 20 - 30% lower than prescribed. Improper furnace operation can be observed immediately from the drop in CO concentration and increase in the H_2 content of the gases, indicating water leakage from the cooling system, the critical H-content being 12%. If the pressure under the crown exceeds 8 - 10 mm water column, the reserve gas-system starts operating while the other one is being cleaned. There are 3 figures.

VOLKOV, Vladimir Fedorovich; MALAKHOV, Aleksandr Kirillovich; RYGALIN, A.G., red.; KHLOPOVA, L.K., tekhn. red.

[Wages on state farms]Oplata truda v sovkhozakh. Moskva, Gosiurizdat, 1962. 137 p. (MIRA 16:2)
(Agricultural wages)

VOLKOV, V.F.

DLUGACH, L.S., professor; SMIRNOVA, A.V., dotsent; VOLKOV, V.F., inzhener, kandidat tekhnicheskikh nauk.

Characteristics of relay contacts and an investigation of ceramic metal contact materials. Sbor. nauch.trud.LETIIZHT no.6:233-268 '54.
(Electric relays) (MLRA 9:1)

Volkov, V.F.

KOTLYARENKO, N.F., dotsent, kandidat tekhnicheskikh nauk; VOLKOV, V.F., inzhener.

Analytic graph method of calculating and analyzing a.c. rail circuits. Sbor.nauch.trud.LETIIZHT no.6:269-290 '54. (MLRA 9:1)
(Electric railroads)

VOLKOV, V.F.

KOTLYARENKO, N.F., dotsent, kandidat tekhnicheskikh nauk; VOLKOV, V.F., inshener.

Rail circuits having track choke coils. Sbor.nauch.trud.LMTIIZHT no.6:291-309 '54. (Electric railroads) (MLRA 9:1)

32 (?)

SOV/112-57-5-10912

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1957, Nr 5, pp 189-190 (USSR)

AUTHOR: Pashentsev, I. D., Eyler, A. A., Volkov, V. F.

TITLE: Use of No-Contact Elements in Transportation Automation and Telemechanics (Primeneniye beskontaktnykh elementov v sistemakh transportnoy avtomatiki i telemekhaniki)

PERIODICAL: Sb. Leningr. in-ta inzh. zh.-d. transp. 1956, Nr 151, pp 199-221

ABSTRACT: One of the most promising types of no-contact equipment is the magnetic amplifier that has high engineering and operating performance characteristics: practically unlimited life, high reliability due to absence of moving parts, readiness to operate at any time, and operability under conditions of vibration, high humidity, and air contamination. Application of no-contact elements is most efficient in pulse-type and code systems, where the right combination of contact and no-contact elements permits relatively simple

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SOV/112-57-5-10912

Use of No-Contact Elements in Transportation Automation and Telemechanics

realization of theoretical designs, and insures considerably higher engineering and operating characteristics of the systems. An outline of two- and three-winding magnetic amplifiers, as well as of three- and four-winding relay-type magnetic amplifiers, is presented. Elementary circuits using magnetic amplifiers are presented. A scheme of automatic locomotive signaling with an automatic train stop and a scheme of an AC digit code automatic block system using contactless elements are examined. Underlying the above developments is a principle that all circuit components functioning under the most heavy pulse conditions should be replaced by contactless elements, i.e., by relay-type magnetic amplifiers. Other circuit components functioning only on change of light signals, and, therefore, having lighter operating conditions, are left conventional. Tests have shown that substituting magnetic amplifiers for counting relays, particularly for transmitter relays, has considerably increased the stability and reliability of equipment operation. 28 illustrations.

T.I.L.

Card 2/2

VOLKOV, V.F.

KOTLYARENKO, N.F., kandidat tekhnicheskikh nauk, dotsent; KIRILOV, M.M., assistent inzhener; VOLKOV, V.F., assistent inzhener.

Effect of traction current harmonics on the operation of rail track circuits. Sbor.LIIZHT no.151:261-300 '56. (MLRA 10:1)
(Electric railroads)

VOLKOV, V.F.

MARUSHKO, Fedor Ivanovich, dotsent, kand.tekhn.nauk; PEREBOROV, Aleksandr Sergeyevich, dotsent, kand.tekhn.nauk; EYLER, Aleksandr Aleksandrovich, dotsent, kand.tekhn.nauk; VOLKOV, Vyacheslav Fedorovich, starshiy prepodavatel'; MARENKOVA, G.I., inzh., red.; VERINA, G.P., tekhn.red.

[Automatic and remote control in railroad transportation] Avtomatika i telemekhanika na zheleznodorozhnom transporte. Moskva, Gos.transp.zhel-dor.izd-vo, 1959. 397 p. (MIRA 13:2)
(Railroads--Automatic train control)
(Railroads--Signaling)

S/194/61/000/009/027/053
D209/D302

AUTHORS: Pashentsev, I.D., Volkov, V.F. and Sobakin, V.A.

TITLE: Contactless numerical code transmitter with magnetic amplifiers

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 9, 1961, 55, abstract 9 V439 (Sb. Leningr. in-ta inzh. zh-d. transp., 1960, no. 169, 215-230)

TEXT: A contactless numerical code transmitter is described generating code impulses for systems of automatic blocking and automatic signalling with automatic stop using a circuit with seven magnetic amplifiers. An analysis of transmitter circuit protection in case of likely breakdowns is carried out and experimental test results of a model in various environmental conditions are given. The model proved to operate satisfactorily in the temperature range of -30 to 55°C. 12 figures. 1 reference. [Abstracter's note: Complete translation]

Card 1/1

KOTLYARENKO, Nikolay Fedorovich; VOLKOV, V.F., inzh., starshiy prepodavatel', retsenzent; LEONOV, A.A., inzh., retsenzent; SHISHLYAKOV, A.V., kand. tekhn. nauk, retsenzent; PENKIN, N.F., kand. tekhn. nauk, nauchnyy red.; BOBROVA, Ye.N., tekhn. red.

[Electric rail circuits] Elektricheskie rel'sovye tsepi. Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1961. 326 p. (MIRA 14:8)
(Railroads--Signaling)

ACC NR: AR7002219 SOURCE CODE: UR/0271/66/000/010/B031/B032

AUTHOR: Volkov, V. F.

TITLE: Three-cycle radio pulse recorder with unidirectional coupling elements

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika, Abs. 10B205

REF SOURCE: Tr. Tomskogo in-ta radioelektron. i elektron. tekhn., no. 4, 1965, 56-67

TOPIC TAGS: flip flop circuit, signal element, carrier frequency, tunnel diode, semiconductor device, radio pulse recorder, coupling element, electronic feedback

ABSTRACT: Problems of constructing recorders are discussed using radio-pulse flip-flops with tunnel diodes and a strong feedback. An analysis is made of particular problems, arising from the practical realization of the radio-pulse systems. It is the problem of obtaining unidirectional movement of information over the radio pulse recorder. Three-cycle radio-pulse recorders with unidirectional coupling elements are analyzed theoretically and experimentally. Equations are

Card 1/2 UDC: 681.142.642.7

ACC NR: AR7002219

derived for calculating tolerances for supply voltage and the voltage cycle amplitude. Experimental results are presented here for a radio-pulse recorder, consisting of five flip-flops for a carrier frequency of 5 Mc at a frequency cycle of 300 kc. The results of theoretical and experimental investigations confirmed the possibility of obtaining reliable operation of the three-cycle radio pulse recorder with unidirectional coupling elements. The tolerances for the supply voltage and the voltage cycle amplitude appear to be sufficiently high and, therefore, a similar radio pulse recorder can be easily constructed. The use of modern high-frequency vacuum-type or semiconductor devices in radio-pulse recorders with tunnel diode flip-flops as the unidirectional elements makes it possible to build a radio pulse recorder with carrier frequencies of several hundreds of Mc at cycle frequencies of tens of Mc. Orig. art. has: 8 figures and a bibliography of 4 titles. [Translation of abstract] [NT]

SUB CODE: 09/7

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L 11552-66 EWT(1)/EWA(h)
ACC NR: AR5027562 SOURCE CODE: UR/0274/65/000/008/A056/A056

SOURCE: Ref. zh. Radiotekhnika i elektronvyaz', Abs. 8A407

AUTHOR: Volkov, V. F.

TITLE: Equivalent circuit of a tunnel-diode amplitude trigger and calculation of the envelope of its pulse

CITED SOURCE: Tr. Tomskogo in-ta radioelektron. i elektron. tekhn., v. 3, 1964, 151-156

TOPIC TAGS: trigger circuit, tunnel diode, electric capacitance, differential equation, pulse signal

TRANSLATION: A binary tunnel-diode amplitude trigger is considered which produces h-f oscillations of different amplitudes depending on the presence or absence of input signals. An equivalent circuit of the trigger comprises a nonlinear source, a nonlinear p-n-junction capacitance that also includes all stray capacitances, a diode-case inductance combined with the wiring inductance, and a loss resistance. Based on the equivalent circuit, a differential equation is set up which describes both transient and stationary operations of the trigger. In order to

UDC: 621.373.545:621.382.233

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L 11552-66
ACC NR: AR5027562

solve this equation, an analytical formula for the tunnel-diode characteristic has to be available which is difficult to provide; hence, a graphoanalytical method is used. The solution permits plotting the pulse envelope and analyzing the effect of load, clock voltage, and starting-pulse moment of application upon the trigger operation. Theoretical results are in good agreement with the experimental. Bib 5.

SUB CODE: 09

HW

Card 2/2

VOLKOV, V.F., kand. tekhn. nauk; LEBEDEV, P.D., prof.; SOKOLOV, Ye.Ya.; SEMENENKO, N.A.; KOLACH, T.A., dotsent; IVANOV, A.N.; TIKHOMIROV, I.G.; PAVLOV, M.N.

Training of engineers in the field of industrial power engineering. Prom. energ. 19 no.11:30-32 N '64. (MIRA 18:1)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova (for Volkov). 2. Moskovskiy ordena Lenina energeticheskiy institut (for Lebedev, Sokolov, Semenenko). 3. Fakul'tet promyshlennoy teploenergetiki Moskovskogo ordena Lenina energeticheskogo instituta (for Kolach). 4. Gosudarstvennyy komitet po koordinatsii nauchno-issledovatel'skikh rabot SSSR (for Ivanov). 5. Nauchno-issledovatel'skiy institut Soveta narodnogo khozyaystva SSSR (for Tikhomirov). 6. Gosudarstvennyy soyuznyy institut po proyektirovaniyu metallurgicheskikh zavodov (for Pavlov).

VOLKOV, V.F., dotsent, kand.tekhn.nauk; ANDRYUSHCHENKO, Yu.S., assistent

Air conditioning of crane cabins in hot departments of metallurgical plants. Trudy Ural. politekh. inst. no.108:79-88 '61.
(MIRA 16:9)

VOLKOV, V.F.; VYSHINSKIY, N.N.

Radiospectral comparator for investigating the absorption spectra of molecules. Zav.lab. 29 no.5:614-615 '63. (MIRA 16:5)

1. Gor'kovskiy gosudarstvennyy universitet im. N.I.Lobachevskogo.
(Radio-frequency spectroscopy)

VOLKOV, V.F.; VYSHINSKIY, N.N.; RUDNEVSKIY, N.K.

Vibrational and rotational spectra of trimethylchlorosilane, triethylchlorosilane, and triethylchlorostannane. Izv. AN SSSR.Ser. fiz. 26 no.10:1282-1285 O '62. (MIRA 15:10)
(Silane--Spectra) (Tin organic compounds--Spectra) (Spectrum, Molecular)

DEKHANOV, N.M., inzh.; VOLKOV, V.F., inzh.; KRAVCHENKO, V.A., kand.tekhn.nauk; FRISH, M.I., inzh.

A powerful, closed, ferroalloy furnace has been put into operation. Stal' 23 no.1:41-44 Ja '63. (MIRA 16:2)
(Electric furnaces—Design and construction)
(Iron alloys--Electrometallurgy)

S/764/61/000/000/003/003

AUTHORS: Khitrik, S.I., Doctor of Technical Sciences; Voikov, V.F., Nikolayev, V.I., Engineers; Yem, A.P., Candidate of Technical Sciences; Gasik, M.I., Assistant; Yemlin, B.I., Engineer.

TITLE: Industrial experience with the vacuum treatment of iron alloys.

SOURCE: Razvitiye ferrosplavnoy promyshlennosti SSSR. Ed. by N.M. Dekhanov and others. Kiyev, Gostekhizdat USSR, 1961, 231-240.

TEXT: The paper describes experimental vacuum techniques applied by the School of Electrometallurgy of the Dnepropetrovsk Institute of Metallurgy, jointly with the Zaporzh'ye Iron-Alloys Plant, for the making of dense ingots free of gas blowholes of C-free ferrochrome and metallic Mn. The work was begun in 1953, and the present paper describes the improved vacuum chamber and pumping system developed since 1955 and 1956 (schematic cross-section shown). The vacuum chamber comprises a metallic container with an internal lining of a single row of firebrick. The removable cover is water-cooled and, while not protected by a lining, is shielded from the heat radiation of the liquid metal by means of a sheet-metal screen. The pumping plant, which is connected to the chamber by means of a large-diam conduit, is placed at a distance of 25 m from the chamber. A multiple-

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unit pumping system is used. With the use of a single PMK-4 (RMK-4) pump, the residual pressure attained is 30-40 mm Hg; the additional operation of 2 BH-6Г (VN-6G) pumps reduces the pressure to 8-15 mm Hg after 7-9 min. The chemical composition of the metal after various holds in the ladle prior to vacuum treatment and for various durations of the vacuum treatment is shown, and it is established that the Cr_2O_3 content in the slags decreases on the mean by 24% and the FeO content decreases by 20%. This decrease is attributed to a process of reduction of these oxides by Si and also by the SiO and CO oxides which form during the oxidation of Si and C in the metal. The beneficial effects of the vacuum treatment are also interpreted with respect to the decarburization of ferrochrome and others. The results of this work have been brought into practical operation at the Zaporozh'ye Iron-Alloys Plant. In March 1957 a vacuum equipment was also established at Plant No. 3 for the vacuum treatment of metallic Mn. Whereas in 1957 only 3% of the total ferrochrome production was vacuum-treated, in 1958 nearly 50% of the total ferrochrome production was vacuum-treated. A further study of the favorable effect of vacuum treatment on the quality of ferrochrome, ferromanganese, ferrosilicon, silicomanganese, and silicochrome is recommended. It is also important to study the effect of vacuum treatment of iron alloys on the quality of the alloyed steel. The experience of the Zaporozh'ye Iron-Alloys Plant substantiates the technical and economic advantages of a broad-scale vacuum treatment of ferrochrome and metallic

Industrial experience with the vacuum S/764/61/000/000/003/003

Mn at other plants also. There are 2 figures, 4 tables, and 8 references (6 Russian-language Soviet and 2 English-language originals: Evans, J., Problems of Modern Metallurgy, no.1, 1954; Sally, A.N., Brandes, E.A., Mitchells, C.V., J. Inst. Met., v.8, 1953; the first of these in Russian translation).

ASSOCIATION: Dnepropetrovskiy metallurgicheskiy institut (Dnepropetrovsk Metallurgical Institute) and Zaporozhskiy Zavod Ferrosplavov (Zaporozh'ye Iron-Alloys Plant).

Card 3/3

L 11404-63 EWT(m)/EDS s/032/63/029/005/018/022

50

AUTHORS: Volkov, V. F. and Vyshinskiy, N. N.

TITLE: Radiospectral comparator for investigation of the absorption spectra of molecules

PERIODICAL: Zavodskaya laboratoriya, v. 29, no. 5, 1963, 614-615

TEXT: The design of an analyzer of microwave lines of gas absorption is described. The comparator for a frequency range of 7000 to 50,000 mc consists of 2 radio-spectroscopes, one of them a standard. In the standard, electric signals of the molecules serve as standards of frequency and intensity. The action of the research radiospectroscope is based on electric molecular modulation, and the radiospectral lines are determined by comparison with the standard absorption lines of the gas molecules. There is one figure.

ASSOCIATION: Gor'kovskiy gosudarstvennyy universitet im. N. I. Lobachevskogo (Gor'kiy State University imeni N. I. Lobachevskiy)

ja/ll
Card 1/1

SAPKO, A.I., kand.tekhn.nauk; DOBROV, V.P., kand.tekhn.nauk; DEM'YANETS, L.A., inzh.; DEKHANOV, N.M., inzh.; VOLKOV, V.F., inzh.; KRAVCHENKO, V.A., inzh.; BOYTSOV, L.I., inzh.; SEMENOVICH, B.V., inzh.; FRISH, M.I., inzh.

Investigating power regulators with electromechanical and electrohydraulic drives on ferroalloy refining furnaces. Stal' 22 no.4:321-324 Ap '62. (MIRA 15:5)
(Electric furnaces)

41663

S/048/62/026/010/010/013
B117/B186

24.6111

AUTHORS: Volkov, V. F., Vyshinskiy, N. N., and Rudnevskiy, N. K.

TITLE: Rotational vibration spectra of trimethyl silane chloride, triethyl silane chloride, and triethyl stannane chloride

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 10, 1962, 1282-1285

TEXT: Microwave spectra (20,000-40,000 Mc/sec) of $(CH_3)_3SiCl$, $(C_2H_5)_3SiCl$, $(CH_3)_3SnCl$, $(C_2H_5)_3SnCl$ and infrared absorption spectra (400-1600 cm^{-1}) of $(CH_3)_3SiCl$, $(C_2H_5)_3SiCl$, $(C_2H_5)_3SnCl$, and $(C_2H_5)_2SnCl_2$ (400-1300 cm^{-1}) were examined. The infrared absorption spectra of $(CH_3)_3SiCl$ and $(C_2H_5)_3SiCl$ agree with published data (A. L. Smith, J. A. McHard, Anal. Chem., 31, 1174 (1959); Ya. I. Ryskin, M. G. Voronkov, Collect. Czechoslov. Chem. Com., 24, 3816 (1959)). Infrared spectra of crystallizing $(C_2H_5)_2SnCl_2$ show a frequency change of the band which corresponds with the stretching vibrations of the C-C bond. This is related to the different symmetries of

Card 1/3

Rotational vibration spectra...

a molecule in solution (point group C_{2v}) and in crystalline state (C_s). According to their microwave spectra, $(CH_3)_3SiCl$ and $(CH_3)_3SnCl$ possess the configuration of a symmetric gyro (point group C_{3v}). Spectra show distinctly marked harmonic series of these molecules with Cl^{35} and Cl^{37} isotopes. In accordance with the configuration stated above, the band in the infrared spectrum of $(CH_3)_3SiCl$, which corresponds to the stretching vibrations of the Si-Cl bond, is symmetric. In addition to the lines which are characteristic of symmetric gyros, the microwave spectrum of $(C_2H_5)_3SiCl$ exhibits a large number of other lines indicating that the molecule concerned exists in the form of rotational isomers. The presence of such molecules, and the presumed configuration of the point groups C_3, C_s, and C_1, account for the complex structure of the infrared absorption bands corresponding to the stretching vibrations of the C-C bonds of various isomers. The moment of inertia and the rotation constant of the molecule suggest that a C_{3v} symmetry can be assigned to $(C_2H_5)_3SiCl^{35,37}$. The microwave spectrum of $(C_2H_5)_3SnCl$ shows no lines

indicating the configuration of a symmetric gyro. On the strength of the infrared spectrum it is possible, however, to regard the configuration with C_s symmetry as the isomeric ground state of $(C_2H_5)_3SnCl$. There are 2 figures and 1 table.

DEKHANOV, N.M., inzh.; KRAVCHENKO, V.A., inzh.; VOLKOV, V.F., inzh.; SEREBRENNIKOV, A.A., inzh.; MORGULEV, S.A., inzh.; KULESHOV, P.Ya., kand.tekhn.nauk; YELENSKIY, F.Z., inzh.

Making 75-perecent ferrosilicon with gas coke. Stal' 21 no.12:1088-1089 D '61. (MIRA 14:12)
(Ferrosilicon--Electrometallurgy)
(Gas industry--By-products)

✓ Gas formation in a fluidized bed of small fuel particles. V. I. Vulkov. Trudy Ural. Politekh. Inst. im. S. M. Kirova, Sbornik 1956, No. 61, 15-24.—Nine gas probes at intervals of 100 mm. were mounted in the conical part of a fluidized bed reactor with a bottom diam. of 50 mm., top diam. of 500 mm., and a height of 1100 mm. Depletion of air, pressure drop with height, vertical temp. profile, and CO_2 and CO concns. were measured. Exptl. activation energies found for heterogeneous CO formation were 30,400, for heterogeneous CO_2 formation 18,400, and for $CO_2 + C = 2CO$ 38,600. Good agreement was obtained between exptl. points for CO, CO_2, and O concns. with values calcd. from an assumed equation. R. Deklau

4

1/1

Distr: 4E4j

VOLKOV, V.P., kandidat tekhnicheskikh nauk.

Gasification of peat residues in suspension. Trudy Ural.politekh.inst. no.61:75-80 '56. (MLRA 10:2)
(Peat) (Gas manufacture and works)

PASHENTSEV, I.D., kand.tekhn.nauk, dotsent; VOLKOV, V.F., inzh.; SOBAKIN, V.A., inzh.

Noncontact numerical code transmitter using magnetic amplifiers. Sbor. LIIZHT no.169:215-230 '60. (MIRA 13:11)

(Information theory) (Magnetic amplifiers)

VOLKOV, V.G.

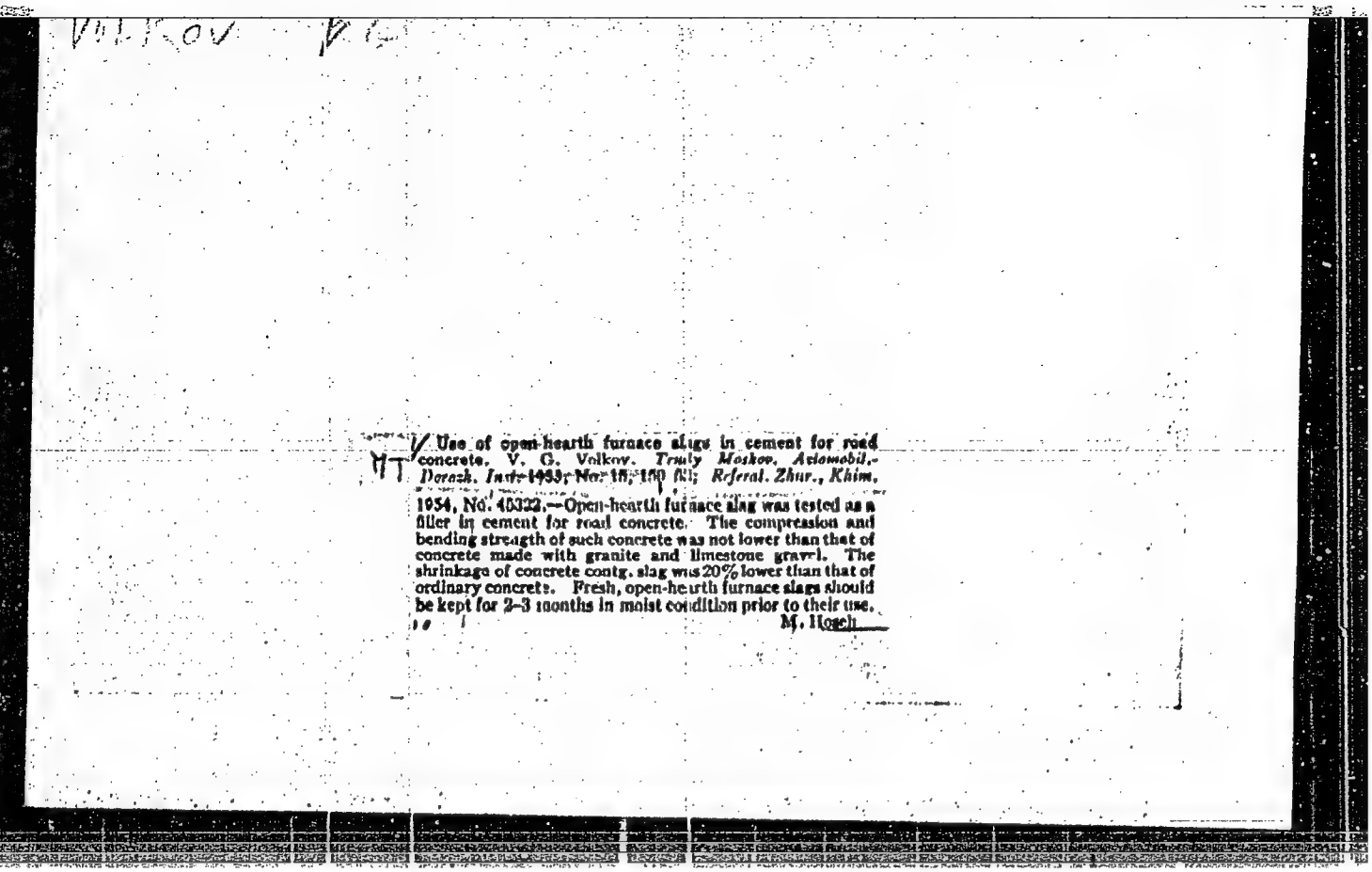
Electric salinometer for remote measurements. Ryb. prom. no.54: 33-56 '60. (MIRA 15:9)

(Salinometer)

VOLKOV, V.G.

Cementing of a bonding substance with stone and its effect on the strength of concrete. V. O. Volkov. *Trudy Moskov. Avtomobil.-Dorozhn. Inst.* 1953, No. 15, 183-8; *Referat. Zhur., Khim.* 1954, No. 43607.—I was found that the cementing of hardened concrete with stone filler increases with the strength of the concrete. The cementing depends on the nature of the surface of the filler and on its chem. activity. The cementing affects the compression, bending, and tensile strength of the concrete. M. Hosch.

MT



Use of open-hearth furnace slags in cement for road concrete. V. G. Volkov. *Trudy Moskov. Avtomobil.-Dorozh. Inst.* 1953, No. 15, 180 pp.; *Referat. Zhur., Khim.*, 1954, No. 40322.—Open-hearth furnace slag was tested as a filler in cement for road concrete. The compression and bending strength of such concrete was not lower than that of concrete made with granite and limestone gravel. The shrinkage of concrete contg. slag was 20% lower than that of ordinary concrete. Fresh, open-hearth furnace slags should be kept for 2–3 months in moist condition prior to their use.

M. Hoch

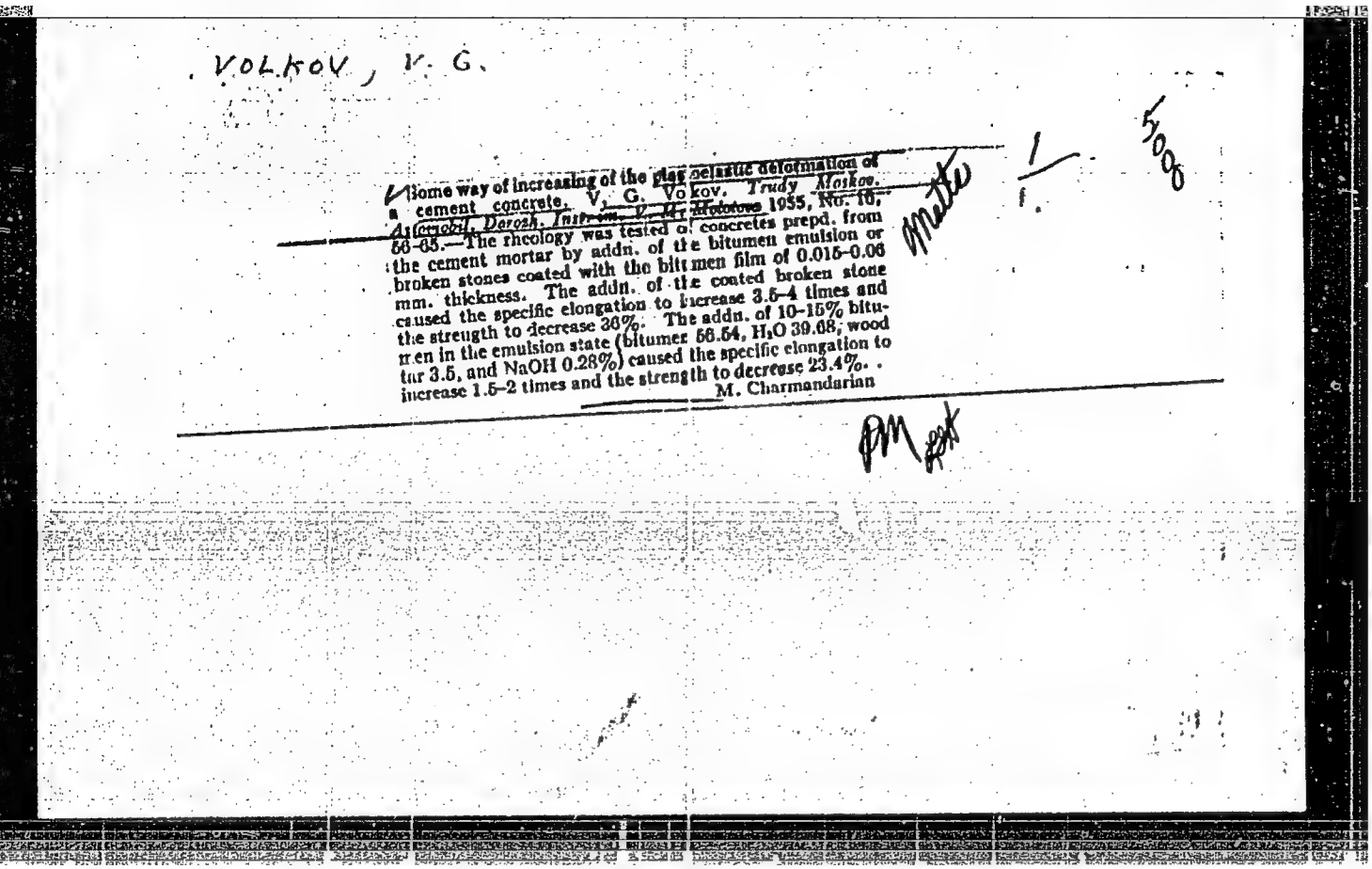
1. VOLKOV, V.G.

2. USSR (600)

4. Concrete

7. Adhesion of stone materials to the binding substance in concrete, Stroi.prom. 31 no. 4, 1953.

9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.



VOLKOV, V. G.

Some way of increasing of the plastic deformation of cement concrete. V. G. Volkov. *Trudy Moskov. Avtomobil. Dorozh. Inst-ov. V. M. Molotova* 1955, No. 16, 66–85.—The rheology was tested of concretes prepd. from the cement mortar by addn. of the bitumen emulsion or broken stones coated with the bitumen film of 0.015–0.06 mm. thickness. The addn. of the coated broken stone caused the specific elongation to increase 3.5–4 times and the streugth to decrease 30%. The addn. of 10–15% bitumen in the emulsion state (bitumen 56.54, H_2O 39.68, wood tar 3.5, and NaOH 0.28%) caused the specific elongation to increase 1.5–2 times and the strength to decrease 23.4%.

M. Charmandarian

VOLKOV, V.G., dotsent, kand. tekhn. nauk

Using open-hearth slags in cement and activated concretes. Sbor. trud. Khab. avt.-dor. inst. no.2:89-93 '62. (MIRA 18:4)

1. Moskovskiy avtomobil'no-dorozhnyy institut.

VOLKOV, V.G.

A device for measuring the distribution of salinity and temperature of seawater by depth. Trudy Inst. okean. 67:216-229 '64.
(MIRA 17:12)

Electrosalinometers ES-61 and ES-62 for laboratory and ship use. Ibid.: 230-242

VOLKOV, V.G.; GRIBKOV, V.A.

Introducing standard adjustment for automatic turret lathes.
Mashinostroitel' no.7:30-32 Jl '63. (MIRA 16:9)
(Lathes--Maintenance and repair)

VOLKOV, V.G., inzh.

Effect of the magnetization of the wheels of an electric mine locomotive on the specific value of the tangential pulling force. Vop. rud. transp. no.7:240-244 '63. (MIRA 16:9)

1. Tul'skiy gornyy institut.

(Mine railroads)

VOLKOV, V.G., inzh.

Experimental study of an electromagnetic apparatus for increasing the coupling traction force of an electric mine locomotive. Izv. vys.ucheb.zav.; gor.zhur. 5 no.9:90-96 '62. (MIRA 15:11)

1. Leningradskiy ordenov Lenina i Trudovogo Krasnogo Znameni gornyy institut imeni G.V.Plekhanova. Rekomendovana kafedroy obshchey elektrotekhniki elektricheskikh mashin.
(Mine railroads)

VOLKOV, V.G.

Frequency-impulse telemeter for measuring the temperature of sea water. Okeanologiia 2 no.5:907-911 '62. (MIRA 15:11)

1. Institut okeanologii AN SSSR.
(Deep-sea temperature--Measurement) (Telemeter)

VOLKOV, V. G.

"Acoustic Properties of Wooden Structures Capable of Oscillating." Thesis for degree of Cand. Technical Sci. Sub 19 Jan 50, All-Union Sci Res Inst of Cinematography

Summary 71, 4 Sep 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1950. From Vechernyaya Moskva. Jan-Dec 1950.

VOLKOV, V.G.

Tractors

Effect of injection lead angle and of some operational adjustments of the fuel apparatus upon the strength and economy of tractors. Avt.trakt.prom., no. 7, 1952.

MONTHLY LIST OF RUSSIAN ACCESSIONS, LIBRARY OF CONGRESS, NOVEMBER 1952. UNCLASSIFIED.

VOLKOV, V.G., dotsent, kand.tekhn.nauk

Strength and deformation of dry and water-saturated concrete. Avt. dor. 24 no.4:19-21 Ap '61. (MIRA 14:5)
(Concrete—Testing)

Name: VOLKOV, V.G.

Wrote an article on rectifiers without step-up transformers. Author suggested the use of 6X6 (diode) or kenotron tubes in place of step-up transformers achieving the same results.

This article is of a semi-technical nature.

REF: R. F. #23-24, p.25, 1938

VOLKOV, V.G.

Electromagnetic method and apparatus for measuring currents.
Trudy Inst.okean. 19:98-106 '56. (MLRA 10:2)

(Ocean currents)
(Electric measurements)

VOLKOV, V.G.

Testing microphones under the conditions of strong interference. (MIRA 11:5)
Trudy NIKFI no.12:117-124 '57.
(Microphone)

SOV/112-59-1-1125

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 1, p 150 (USSR)

AUTHOR: Sysoyev, N. N., and Volkov, V. G.

TITLE: Manual for the Electromagnetic Method of Measuring Sea-Current Velocity From a Moving Ship

PERIODICAL: Tr. In-ta okeanol. AS USSR, 1957, Nr 24, pp 173-199

ABSTRACT: Physical fundamentals of the method are set forth in detail: inducing the EMF in a water layer which is moving in the vertical-component field of the terrestrial magnetic field. An electromagnetic sea-current meter comprising electrodes, cables, and a recorder is described. Methods of operating the instrument are set forth, including navigation schemes, determination of the depth of tow, tape processing, and an allowance for the horizontal terrestrial magnetic-field component. Preparation of cadmium nonpolarizing and of chlorine-silver electrodes is described. Fifteen illustrations. Bibliography: 4 items.

V.F.R.

Card 1/1

VOLKOV, V.G.; SHEKHVATOV, B.V.

The high-speed, accoustically-coupled, electronic telebathythermograph. Trudy Inst.okean. 24:215-226 '57. (MIRA 10:10)
(Oceanographic instruments)

VOLKOV, V.G.

Suppression of wave interference in the work with the electromagnetic current meter. Trudy GOIN no.40:57-64 '57. (MIRA 10:7)
(Ocean currents) (Electric filters)

VOLKOV, V.G.; PELEPEYCHENKO, I.P.; SIMBIRSKIY, D.F.

High-frequency resistance thermometer. Izv. vys. ucheb. zav.; prib. 8 no.5:131-134 '65. (MIRA 18:10)

1. Khar'kovskiy aviatsionnyy institut. Rekomendovana kafedroy konstruktsiy i prochnosti aviatsionnykh dvigateley.

L 40783-66
ACC NR: AP6018597 SOURCE CODE: UR/0420/65/000/004/0003/0009

40
B

AUTHOR: Volkov, V. G.; Pelepeychenko, I. P.; Simbirskiy, D. F.

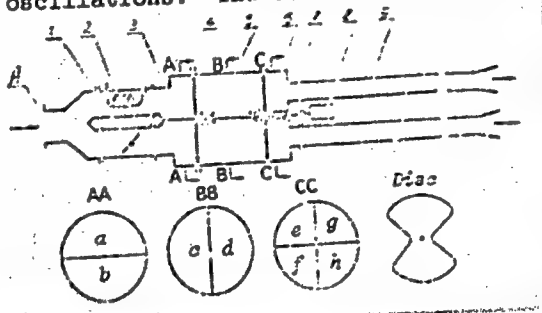
ORG: Kharkov Aviation Institute (Khar'kovskiy aviatsionnyy institut

TITLE: Experimental investigation of dynamic errors in heat sensing equipment during measurements in nonstationary gas flows

SOURCE: Samoletostroyeniye i tekhnika vozdushnogo flota, no. 4, 1965, 3-9

TOPIC TAGS: flow temperature measurement, nonsteady flow, flow analysis, anemometer

ABSTRACT: A special device is described for generating a gas flow with sinusoidal oscillations in velocity and temperature and provision for varying the frequency and the phase shift between the temperature and velocity oscillations. The device is shown in the accompanying diagram. Compressed air is fed to inlet *A* and from there to preheater 2 which is located in only one tube. Chamber 3 is divided by a horizontal baffle into two sections with hot air in section *a* and cold air in the lower section *b*. Chamber 5 is separated from chamber 3 by distributor disc 4 and divided into two sections *c* and *d* by a vertical barrier. When the disc is rotated, hot and cold air are



Card 1/2

admitted to sections *c* and *d* in various ratios but with a constant total volume of hot and cold air. Thus the air stream in each of the sections *c* and *d* moves at a constant velocity with a temperature which varies in time. Distributor disc *6* is located in front of chamber *7* which is divided into 4 sections by two mutually perpendicular baffles. Streams with varying velocity are set up in each pair of sections *e*, *f* and *g*, *h* along the vertical as the cross section is increased or reduced. Each of these four sections *e*, *f*, *g* and *h* is connected to a tube *9* where the flow oscillates with respect to temperature and velocity. By shifting disc *4* with respect to disc *6*, various phase angles may be obtained between velocity and temperature oscillations in the flow tubes. The installation gives maximum air velocities of 40 m/sec, a maximum temperature amplitude of 25°C and a pulsation frequency from 0.1 to 15 cps. The power consumption of the heater is 20 kw. A tungsten resistance thermometer is used for temperature measurement and flow velocity is measured by a tungsten hot-wire anemometer. Experimental data obtained with the use of this device show that the phase shift between temperature and heat transfer coefficient has a considerable effect on displacement of the average temperature level of heat sensing devices. Orig. art. has: 4 figures, 1 table.

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 006

Card 2/2 MLP

L 40077-66 EWT(1) GW

ACC NR: AT6017050 (N) SOURCE CODE: UR/2566/65/074/000/0047/0054

AUTHOR: Volkov, V. G.; Suvilov, E. V.

ORG: none

TITLE: EBTZ-62/1000 electrobathythermograph

SOURCE: AN SSSR. Institut okeanologii. Trudy, v. 74, 1965. Elektronnyye pribory dlya okeanologicheskikh issledovaniy (Electronic instruments for oceanological research), 47-54

TOPIC TAGS: oceanographic instrument, temperature distribution, pulse generator

ABSTRACT: A bathythermograph designed for the measurement of the temperature distribution of the sea in the 1000-2000 m depth range is described. The submerged part of the instrument consists of a pulse generator, temperature compensator, range finder, and electromechanical commutator. Another part of the instrument on board a vessel consists of a decoder and a recorder. A schematic diagram of each element is given and their designs are discussed in detail. This temperature probe also has a self-controlled device which determines the performance of the generator at any time. In 1963 the design of the pulse generator was revised and improved and temperature stability was achieved. The revised generator can change the frequency of the oscillator from 210 to 480 cps while maintaining constant amplitude. An error of 0.1°C was de-

Card 1/2

L 40077-66

ACC NR: AT6017050

tected in the range of temperature from 0° to 30°C. Orig. art. has: 7 figures.

SUB CODE: 08,14/ SUBM DATE: none/ ORIG REF: 002

Card 2/2 11b

L 34860-66 EWT(d)/EWT(l)/EWT(m)/EWP(v)/EWP(k)/EWP(h)/EWP(l) JD
ACC NR: AP6009182 SOURCE CODE: UR/0146/65/008/005/0131/0134

AUTHOR: Volkov, V. G.; Pelepeychenko, I. P.; Simbirskiy, D. F. 33 B

ORG: Khar'kov Aviation Institute (Khar'kovskiy aviatsionnyy institut)

TITLE: Rf resistance thermometer 14

SOURCE: IVUZ. Priborostroyeniye, v. 8, no. 5, 1965, 131-134

TOPIC TAGS: thermometer, resistance thermometer, heat measurement

ABSTRACT: Experimental results obtained with a quick-response 7.1-Mc platinum resistance thermometer tested with a Biot criterion of 5×10^{-5} to 5×10^{-4} (F. Nagao et al., Bul. of ISME, v. 4, no. 14, 1961) are disputed by the authors of the present article. An experimental verification included 10-Mc thermometers with Fe and W coils. Time constants of 0.05-mm W coils and 0.16-, 1-, and 2-mm Fe coils at 10 Mc and dc were measured on a special electronic instrument.

UDC: 536.5

Card 1/2

L 34860-66

ACC NR: AP6009182

It is found that, with Bi < 0.01, the temperature field is practically uniformly distributed over the coil cross-section; the higher response of such thermometers reported by F. Nagao et al. did not prove true. The r-f resistance thermometer has a higher sensitivity than the conventional which is particularly important for low-resistance sensors (coils). The r-f thermometer is the only device that makes studying temperature fields in small-size cylinders possible. Orig. art. has: 3 figures and 5 formulas.

SUB CODE: 09 / SUBM DATE: 30Oct64 / ORIG REF: 004 / OTH REF: 001

Card 2/2 vmb

ACC NR: AT7008333 (A) SOURCE CODE: UR/3243/66/000/003/0113/0119

AUTHOR: Volkov, V. G.; Pershin, P. P.; Simbirskiy, D. F.

ORG: Kharkov Aviation Institute (Khar'kovskiy aviatsionnyy institut)

TITLE: On analysis of possible methods for measuring temperature in the working chamber of a rotary-piston engine

SOURCE: Kharkov. Politekhnicheskiy institut. Dvigateli vnutrennego sgoraniya, no. 3, 1966, 113-119

TOPIC TAGS: rotary piston engine, temperature measurement, conductive heat transfer

ABSTRACT: The authors discuss possible methods for eliminating dynamic errors in measurement of compression temperature during cold cranking of rotary-piston engines at close to operating speeds. The following three problems are considered: 1. Evaluation of dynamic errors in using resistance thermometers with minimum diameters. 2. Finding the optimum modification of the double-bulb method. 3. Determination of the possibility for using electronic correcting equipment with available data on the variation in the heat transfer coefficient a during the cold cranking cycle. A model of a rotary-piston engine was studied at crankshaft speeds of 1500 to 3000 rpm. Tungsten resistance thermometers measuring 0.01 and 0.025 mm in diameter were used. The arrangement of the thermometers is shown in Figure 1. Temperature and pressure were

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ACC NR: AT7008333

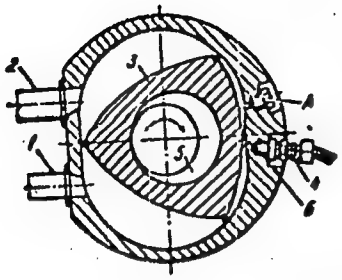

Fig. 1. 1--exhaust fitting; 2--intake fitting; 3--rotor in TDC position; 4--pickup; 5--eccentric shaft

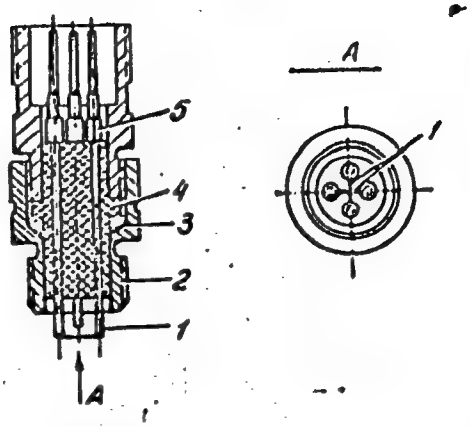

Fig. 2. 1--heat sensors; 2--housing; 3--sealing gasket; 4--insulators; 5--holders

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ACC NR: AT7008333

measured at points A and B. The double-bulb temperature pickup is shown in Figure 2. The resultant experimental data are used as the basis for recommendations on measuring rapidly changing temperatures by methods most suited to the conditions in rotary-piston engines. Measurements with isolated pickups may be made with an error of 8-10% when the thermometer is 0.01 mm in diameter and 25-30% when the diameter is 0.025 mm. The heat transfer coefficient α must be known for exact determination of the error. The coefficient of heat transfer between the thermometer pickup and the working medium varies over wide limits during the cycle which makes a simple electronic correction method inapplicable. The most suitable method for highly accurate temperature measurements is the use of two pickups, one being heated by maximum permissible current. Heating current should not be reduced since this results in scatter of observed temperature. It is found that the use of temperature pickups with different diameters may introduce distortions in the results. Orig. art. has: 5 figures, 4 formulas.

SUB CODE: 20 21/ SUBM DATE: None/ ORIG REF: 007/ OTH REF: 001

Card 3/3

PANTELEYEV, Fedor Nikolayevich, dotsent, kand.tekhn.nauk; VOLKOV, Vasiliy Georgiyevich, dotsent, kand.tekhn.nauk; KOCHETKOV, D.A., doktor tekhn.nauk, retsenzent [deceased]; NEKRASOV, V.K., dotsent, kand.tekhn.nauk, retsenzent; IVANOV, S.S., red.; LAKHMAN, F.Ye., tekhn.red.

[Road materials] Dorozhno-stroitel'nye materialy. Izd.2., perer. i dop. Moskva, Nauchno-tekhn.izd-vo M-va avtomobil'nogo transp. i shosseinykh dorog RSFSR, 1958. 430 p. (MIRA 13:11)

1. Kafedra tekhnologii dorozhno-stroitel'nykh materialov Moskovskogo avtomobil'no-dorozhnogo instituta (for Panteleyev, Volkov).
(Road materials)

VOLKOV, V.G.

Acoustic disconnection of the cable of a submerged buoy. Trudy Inst. okean. 35:238-244 '59. (MIRA 13:3)
(Buoys)

VOLKOV, V.G.

Schematic and design characteristics of conductive electrosalinometers for oceanographic research. Trudy Inst. okean. 35:45-60 '59.
(MIRA 13:3)

(Salinometer)

VOLKOV, V.G.

Electrosalinometer for oceanographic research. Trudy Inst. okean. 35:33-44 '59. (MIRA 13:3)
(Salinometer)

S/194/61/000/011/054/070
D256/D302

AUTHOR: Volkov, V.G. and Shekhvatov, B.V.

TITLE: Application of FM-modulated information transmission in hydrological instrumentation

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 11, 1961, 58, abstract 11 V463 (Tr. In-ta okeanol. AN SSSR, 1960, 39, 10-24)

TEXT: For measurements of temperature, contents of salt, rates of flow and other quantities describing the state of water media, a variety of converters of non-electric quantities into electric ones is used, the parameters being transmitted by cables to the recording instruments by means of FM of the carrying frequency. A review is presented of various types of instruments, and the possibilities of frequency telemetry are considered, including its use for open sea measurements. [Abstracter's note: Complete translation]

Card 1/1

S/263/62/000/017/007/011
I011/I211

AUTHOR: Volkov, V. G.

TITLE: A towed bathythermograph with one-conductor communication line

PERIODICAL: Referatinyy zhurnal, otdel'nyy vypusk. 32. Izmeritel'naya tekhnika, no. 17, 1962, 43, abstract 32.17.280 "Tr. In-ta okeanol. AN SSSR", 1961, 47, 92-98

TEXT: The wiring diagram and description of the first model of a bathythermograph are given. This instrument is an autonomous thermo-probe with information transmission through an acoustic channel by a frequency-pulse method. Thermoresistors connected in the feedback loop of an RC generator serve as transducers. A change in the transducer resistance causes a change in the frequency of the generated voltage. In the acoustical thermo-probe this changes the frequency of sending ultra-audio oscillations radiated by a magneto-striction generator. In the towed bathy-thermograph the generated voltage is transmitted through a one -conductor cable to a frequency meter. The water between the transducer chasis and the boat hull serves as the other conductor. The frequency meter consists of a 2-stage amplifier with an amplification of up to 2000 and a frequency demodulator the output signal of which is recorded by the ЭПП-09 (EPP-09) electronic potentiometer. Its 0-10 mv scale corresponds to a frequency change in the limits of 280-550 cps or temperature change in the limits of 0-25°C. 2 wiring diagrams of the receiving installation are given: of the first

Card 1/2

A towed bathy-thermograph with... S/263/62/000/017/007/011
I011/I211

model using 6Ж1Б (6Zh1B) tubes and of a modified one using transistors. Regulating thermistors that react on changes in the supply voltage and generator temperature are added to the generator circuit of the towed bathythermograph to ensure high frequency stability during long operation times. A ± 5% voltage or a ± 10% temperature change causes a frequency instability not higher than 0.2%. An error signal of 0.4% corresponds to a 0.13°C error in temperature. The tests of the instrument showed that it yields satisfactory results at a big distance from the vessel and can be used as a bathy-thermo-probe for taking temperature sections up to depths of more than 1 km. There are 6 figures.

[Abstracter's note: Complete translation.]

Card 2/2

BARDYSHEV, A.A., inzh.; VASIL'YEV, V.N., kand. ekon. nauk; VOLKOV, V.G., inzh.; MIKHAYLOV, B.V., kand. tekhn. nauk; MIKHAYLOV, V.A., kand. tekhn. nauk; MIKHAYLOV, V.I., inzh.; PETUNIN, P.I., inzh.; SAVEL'YEV, N.P., inzh.; SOKHIN, V.G., inzh.; STUGAREV, A.S., kand. tekhn. nauk, nauchnyy red.; ZAYCHIKOVA, E.A., red. izd-va; BOROVNEV, N.K., tekhn. red.

[Production of rock, gravel and sand for construction; present state and prospects for development] Proizvodstvo nerudnykh stroitel'nykh materialov; sostoianie i perspektivy razvitiia. [By]A.A. Bardyshev i dr. Moskva, Gosstroiizdat, 1962. 201 p. (MIRA 16:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut nerudnykh stroitel'nykh materialov i gidromekhanizatsii. 2. Vsesoyuznyy nauchno-issledovatel'skiy institut nerudnykh stroitel'nykh materialov i gidromekhanizatsii (for all except Zaychikova, Stugarev, Borovnev).

(Crushed stone industry)
(Sand and gravel industry)

VOLKOV, V.G., inzh.

Increasing the coupling traction force of a mine electric locomotive by electromagnetic means. Izv. vys. ucheb. zav.; gor. zhur. 5 no.3:105-110 '62. (MIRA 15:7)

1. Leningradskiy ordena Lenina i ordena Trudovogo Krasnogo Znameni gornyy institut imeni G.V. Plekhanova. Rekomendovana kafedroy obshchey elektrotekhniki i elektricheskikh mashin Leningradskogo gornogo instituta.
(Mine railroads)

VOLKOV, V.G., dots., kand. tekhn. nauk; SHESTOPEROV, S.V., dokter tekhn. nauk, prof., red.; AKATOVA, V.G., red.

[Curing freshly laid concrete with the aid of film-forming materials] Ukhod za svezheulozhennym betonom s pomoshch'iu plenkoobrazuiushchikh materialov. [n.p.] Rosvuzizdat, 1963. 12 p. (MIRA 18:5)

VOLKOV, V.G., dots., kand. tekhn. nauk; SHESTOPEROV, S.V., prof., doktor tekhn. nauk, red.; SMIRNOVA, I.A., red.

[Slag cements] Shlakovye tsementy. [n.p.] Rosvuzizdat, 1963. 14 p. (MIRA 17:6)

VOLKOV, V.G., inzh.

Laboratory and stand investigation of the modules of hydroclassifiers of sand and gravel mixes. Sbor. trud VNIINerud no.4:77-90 '65. (MIRA 18:11)

GAVRILOV, V.M.; ZABNIN, P.G.; PAVLENKO, Ye.M.; VOLKOV, V.G.

Brief news. Mashinostroitel' no.9:30,42-44 S '65. (MIRA 18:12)

VOLKOV, V.G.; SUVILOV, E.V.

The EBTZ-62/1000 electrobathythermograph. Trudy Inst. okean. 74:47-54 '65. (MIRA 18:12)

VOLKOV, V.I.

USSR/Processes and Equipment for Chemical Industries. K-1
Processes and Apparatus for Chemical Technology

Abs Jour : Referat Zhur - Khimiya, No 9, 1957, 33269

Author : Fal'kovskiy, V.B., Volkov, V.I.
Inst :
Title : Dynamics of Absorption of Ketene by Alcohols and Acetic Acid in Bubbler Columns.

Orig Pub : Zh. prikl. khimii, 1956, 29, No 11, 1757-1760

Abstract : A study of the kinetics of the absorption of ketene (I) by alcohols and dilute acetic acid in a flow system under conditions of minimal polymerization of I. To determine the dependence of the degree of absorption of I on the height H of the layer of scrubbing liquid, the gas velocity w, dimensions of the bubbles, and on other factors, 5 columns were tested (diameter 21-50 mm, H = 40 - 360 mm), without packing and filled with glass rings; the ratio of ring diameter to column diameter was varied from 3 to 12.

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Abs Jour : Ref Zhur - Khimiya, No 9, 1957, 33269

Gas velocity w, with reference to the total cross section of the column, was varied from 0.002 to 0.04 m^3/m^2 second. The absorption process was conducted under isothermal conditions at 3° and 60°. It was found that the rate of low-temperature, irreversible absorption of I by alcohols, in a dynamic system, can be defined by an equation of the 1-st order. The results of the experiments show that the degree of extraction of I decreases with increase of w and increases with increasing size of the bubbles or of the rings used as packing; the effect of the temperature on the rate of the process is relatively slight. The experimental data are described by the empirical equation: $H/S = 102\ M \cdot d \cdot s^{0.2}/T$, wherein $S = \ln(y_i/y_f)$, y_i and y_f -- concentration of I at ingress and egress to and from the scrubbing layer of the liquid; M -- molecular weight of the alcohol, d -- average size of bubbles or

Abs Jour : Ref Zhur - Khimiya, No 9, 1957, 33269

of packing rings; T -- absolute temperature. With increasing content of acetates, up to 70-80%, the H/S changes but little, but thereafter the escape of I increases; on increase of concentration of the acetates to 90% the absorption of I decreases sharply and a small amount of the absorbed I undergoes polymerization in the liquid. With increasing concentration of the acetic acid the rate of absorption of I increases.

KORSHAK, V.V.; ROGOZHIN, S.V.; VOLKOV, V.I.

Heterochain polyamides. Part 20: Preparation of polyamides by reaction between carbon subcxide and diamines. Vysokom. soed. 1 no.6:799-803 Je '59. (MIRA 12:10)

1.Institut elementoorganicheskikh soyedineniy AN SSSR.
(Amides) (Carbon oxide) (Amines)

KORSHAK, V.V.; ROGOZHIN, S.V.; VOLKOV, V.I.

Heterochain polyesters. Part 20: Reaction of carbon suboxide with glycols and biphenols. Vysokom. soed. 1 no.6:804-808 Je '59. (MIRA 12:10)

1.Institut elementoorganicheskikh soyedineniy AN SSSR.
(Carbon oxide) (Glycol) (Phenol)

88539

S/190/60/002/010/012/026
B004/B054

5.3831

AUTHORS: Rempp, P., Volkov, V. I., Perrod, J., and Sadron, C.

TITLE: Anionic Polymerization in the Homogeneous Phase: Combination, Formation of Graft Polymers, and Cross Linking Under the Action of Carbanions on the Ester Groups

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 10, pp. 1521-1530

TEXT: The present investigation was carried out at the Center of Research of Macromolecules, Strasbourg (France). The authors report on the following experiments: 1) Combination of the "living tetramer" (according to M. Szwarc, Ref. 1) of α-methyl styrene with dimethyl terephthalate. The infrared spectrum (Fig. 1) and the increased viscosity of the reaction product in toluene prove the occurrence of dimerization, three of the four ester groups of terephthalate entering into reaction. 2) Polymerization of a mixture of "living tetramer" of styrene and methyl methacrylate at -78°C in tetrahydrofuran with naphthalene sodium as a catalyst. The analyses (Table 1) showed that only pure polymethyl methacrylate was

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Anionic Polymerization in the Homogeneous Phase: Combination, Formation of Graft Polymers, and Cross Linking Under the Action of Carbanions on the Ester Groups

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B004/B054

formed. The infrared spectrum (Fig. 2) also confirmed the absence of polystyrene. 3) Cross linking of polymethyl methacrylate by means of "living" polystyrene in tetrahydrofuran. After the addition of polymethyl methacrylate, the red color of the styrene carbanion disappeared, and the viscosity increased. Cross linking was slow at -75°C, quick at room temperature. 4) Spontaneous deactivation of "living" polymethyl methacrylate occurring at room temperature after 2-3 hours without any change in the molecular weight. The infrared spectrum (Fig. 3) shows that the C=O groups were preserved. 5) Graft polymers of "living" styrene polymer and polymethyl methacrylate in tetrahydrofuran (Table 2). The infrared spectrum (Fig. 4) shows the characteristic absorption bands of polystyrene and polymethyl methacrylic acid. From these experiments, the authors conclude as follows: In the reaction of the styrene carbanion $-CH_2-\underset{\varphi}{CH}(-)$ with ester groups, cross-linked polymers are obtained if the "living" polymers are bifunctional, and graft polymers are obtained if the "living" polymer (which is grafted to polymethyl methacrylic acid) is monofunctional. In this

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Anionic Polymerization in the Homogeneous Phase: Combination, Formation of Graft Polymers, and Cross Linking Under the Action of Carbanions on the Ester Groups

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case, the amount of chains grafted to polymethyl methacrylic acid can be varied by changing the ratio between the carbanions and the ester groups in the mixture. The spontaneous deactivation of "living" polymethyl methacrylic acid is explained by a reaction of the more reactive ester groups with the carbanions. There are 4 figures, 2 tables, and 14 non-Soviet references.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR (Institute of Elemental-organic Compounds of the AS USSR). Center of Research of Macromolecules, Strasbourg (France)

SUBMITTED: May 12, 1960

Card 3/3

KORSHAK, V.V.; ROGOZHIN, S.V.; VOLKOV, V.I.

Coordination polymers. Part 8: Polymers based on aromatic o,o'-dihydroxydicarboxylic acids and bivalent metals. Vysokom soed. 3 no.12:1808-1815 D '61. (MIRA 15:3)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Polymers) (Acids, Organic)

30911
S/190/61/003/012/005/012
B101/B110

15.8150

AUTHORS: Korshak, V. V., Rogozhin, S. V., Volkov, V. I.

TITLE: Investigations in the field of coordination polymers. VIII. Polymers on the basis of aromatic, o,o'-dihydroxydicarboxylic acids and bivalent metals

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 12, 1961, 1808 - 1815)

TEXT: The authors deal with the synthesis of high-molecular compounds in which metal atoms are combined with the organic part of the macromolecule by means of coordination bond. The present investigation describes the interaction of acetyl acetonates, acetates, and chlorides of Cu, Zn, Ni, Co, Cd, and Be with 2,5-dihydroxy terephthalic acid (I) and 4,4'-dihydroxy triphenyl methane-3,3'-dicarboxylic acid (II), also their dimethyl esters (III) and dimethoxy derivatives (IV). In the reaction of I with acetyl acetonates of Zn, Ni or Cu in dimethyl formamide, acetyl acetone was freed, and polymers containing metal were formed, for which the structural formulas

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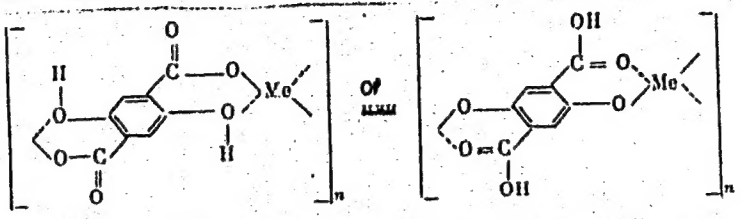
Investigations in the field...



are suggested. The polymer with Zn decomposes at 359°C, the polymer with Cu at 253°C. The reaction of II with Zn or Cu compounds (acetylacetonates and acetates) in methyl formamide (some tests also in methanol or water) resulted in unsoluble, nonfusible substances which decomposed above 350°C. II was obtained by condensation of salicylic acid with benzaldehyde in acid medium at 85°C. In order to study the role of carbonyl and hydroxyl oxygen, III and IV were synthesized. III was obtained by esterification of II by means of methanol in the presence of H_2SO_4, IV by treating the disodium salt of II with dimethyl sulfate. Since III and IV melted without decomposition, polymerization could also be achieved in the melt by means of these substances. Reaction of III with Co, Ni, Cu, and Zn compounds resulted in unsoluble, nonfusible substances for which formula

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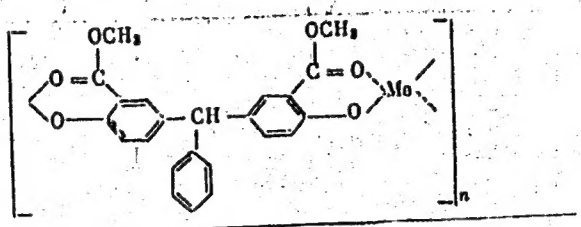
Investigations in the field...



is suggested. The composition of the Cu and Zn compounds was not according to theory. This is ascribed to by-reactions. Reaction of IV with Zn- or Be acetate in acetic acid (>130°C), and of the dipotassium salt of IV with $CuCl_2$, $BeCl_2$, $ZnCl_2$, and $CdCl_2$ in H_2O led to polymers which changed considerably at 250 - 450°C, with the stability decreasing in the order Be > Zn > Cd > Cu. The structural formula